# Relationships as a basis of engagement? Self-efficacy and school engagement of pupils in school

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## Abstract

This study aims to understand how the dimensions of self-efficacy are related to the dimensions of student engagement in school. A national sample of 685 students (56.8% boys) responded to a questionnaire in classes. The instrument for data collection was the "Students engagement in School: A four-dimensional Scale" SES-4DS (Veiga, 2013). This scale revealed four dimensions: cognitive, affective, behavioral and agency engagement. Six items were included in the questionnaire of school self-efficacy, SEQ-C (Nogueira, 2008), with sub-scales of academic, social and emotional self-efficacy. The two items most saturated of each sub-scale were selected. The internal consistency of the reduced subscales was 0.82, 0.77 and 0.69, respectively. Items related to school self-efficacy show a correlation of 0.54 with the full scale of engagement. The more correlated dimensions are social self-eficacy and affective engagement (0.61) suggesting a greater importance of social variables in school engagement. Some suggestions for the promotion of school self-efficacy are presented, in order to foster student engagement in school.

**Keywords:** school self-efficacy, student engagement in school, teens.

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## Resumo

Este estudo tem como objectivo compreender como as dimensões da auto-eficácia se relacionam com as dimensões do envolvimento dos alunos na escola. Uma amostra nacional de 685 alunos (56,8% de rapazes) respondeu a um questionário dentro das salas de aula. O instrumento de recolha de dados foi o "Envolvimento dos Escola: uma Escala de quatro dimensões" SES-4DS (Veiga, 2013). Esta escala revelou quatro dimensões: cognitiva, afetiva, comportamental e agenciativa. Foram incluídos 6 itens do questionário de auto-eficácia escolar, SEQ-C (Nogueira, 2008), com subescalas de auto-eficácia académica, social e emocional. Os 2 itens mais saturados de cada subescala foram seleccionados. A consistência interna das subescalas reduzidas foi de 0,82, 0,77 e 0,69, respectivamente. Os itens relativos à auto-eficácia escolar mostram uma correlação de 0.54 com a escala total de envolvimento. As dimensões mais correlacionadas são a auto-eficácia social e o envolvimento afectivo (0,61), sugerindo uma maior importância das variáveis sociais no envolvimento na escola. São apresentadas algumas sugestões para a promoção da auto-eficácia escolar, de modo a fomentar o envolvimento dos alunos na escola.

**Palavras-chave:** auto-eficácia escolar, envolvimento dos alunos na escola, adolescência.

## 1. Conceptual framework

### 1.1 School engagement

School engagement means the investment in school-based learning in an effort to understand the subjects taught at school, internalize them and incorporate them in everyday life (Newman, Wehlage, & Lamborn, 1992). Involvement in school was defined by Veiga et al. (2012) as the experience of centripetal attraction of the student to school and has been operationalized in order to appreciate the degree to which students are connected and committed to the school, and motivated to learn. Agreement exists concerning the multidimensional nature of engagement in school and is often presented as a construct with cognitive, affective, behavioral and agenciative dimensions (Veiga et al., 2012). The cognitive dimension refers to all

processing elements of the information released by the school, their relationships and plans. The sense of integration and of belonging to the school describes the affective dimension of engagement in school while the conduct in class, attention and absenteeism are elements of the behavioral dimension. The agenciative dimension refers to the student as agent of action, with initiative and ability to intervene. The importance of engagement is justified by its association with learning (Ainley, 1993; Miller, Greene, Montalvo, Ravindran, & Nichols, 1996), with educational outcomes, with performance on standardized tests (Caraway, Tucker, Reinke, & Hall, 2003; Finn & Rock, 1997) and rates of graduation. Besides being related to educational outcomes, there is also a link between the patterns of engagement and indicators of depression, delinquency, and substance use (Li & Lerner, 2011).

## 1.2 Self-efficacy

Making the decision to act in a certain way, implies that the person knows how to do the action and feels able to do this action. The term "self efficacy" was coined by Albert Bandura (1977) to refer to this feeling, which is an expectancy of personal efficacy. "Under these specific conditions, I can do ... (the desired action)". The state of mind (the thoughts one is having) and the state of the body (the physiological aspects) join the information about the competence to issue judgment on whether one is able to perform the necessary course of action. It is therefore an opinion on the availability of competence in a given occasion. The best athlete in the world, being injured, will have a very low self-efficacy. The feeling of power (Aleksiuk, 1996) is the basis for effective action.

There is a whole line of research that demonstrates the importance of self-efficacy (see Bandura, 1997; Pajares, 2009). For example, Stajkovic and Luthan (1998) showed that self-efficacy is strongly related to job performance. Its importance in education is highlighted by Bandura (1986) when he says that "students who develop a strong sense of self-efficacy are well equipped to educate themselves when they have to rely on their own initiative (p. 417)". Self-efficacy influences motivation, learning and academic success (Pajares, 1996; Schunk & Pajares, 2002). The students' confidence in their academic skills anticipates better grades compared to those who do not have that confidence. Academic aspirations are higher than those of students with low self-efficacy. They also spend more time at home with homework and learning activities

associated with optimal experience (Bassi, Steca, Fave & Caprara, 2007). The same effect is apparent in the social sphere, with students who believe in their social skills expecting success in encounters (Pajares, 2006). The notion of school self-efficacy used in this study can be divided into three domains (Muris, 2001). The academic self-efficacy, relating to dealing with academic issues, social self-efficacy, relating to dealing with social situations and emotional self-efficacy, the “perceived capability of coping with negative emotions" (Muris, 2001, p. 146). The latter replaces the self-efficacy for self-regulation, proposed by Bandura, which defines it as the ability to deal with peer pressure to engage in high risk activities (Bandura, Pastorelli, Barbaranelli & Caprara, 1999).

## 1.3 Engagement in school and school self-efficacy

Behavioural engagement is indicted on observable behaviors of effort and persistence. One of the functions of self-efficacy is to keep the person in the job, despite the failures (Bandura, 1997). The quality of this effort reflects the cognitive engagement (Linnenbrink & Printrich, 2003). In the case of emotional engagement, increased levels of anxiety, especially test anxiety, are negatively associated with learning and performance (Zeidner, 1998). On the other hand, students with low levels of self-efficacy often experience negative emotions such as anxiety or depression (Bandura, Barbaranelli, Caprara & Pastorelli, 1996). Positive emotions tend to be associated with self-efficacy (Bandura, 1997). To like mathematics you must feel somewhat competent at it. Despite that one must first interest students in order to make them learn is a belief that is deeply ingrained in teachers, there are other alternatives (Linnenbrink & Printrich, 2003). For Bandura (1997), individuals first develop a sense of competence or efficacy in an activity and hence develop the interest and appreciation of that activity. The agenciative dimension directly implies self-efficacy, because the student only will sees himself as an agent if he believes in his competence. Thus, self-efficacy plays an important role in engaging students in class (Linnenbrink & Printrich, 2003). According to these authors, it gives hope to teachers because the students’ self-efficacy is inherently modifiable and sensitive to the context of the classroom.

## 2. Objective

The aim of this study is to examine relationships between the dimensions of student engagement and dimensions of school self-efficacy. Age, grade and retentions are possible moderator variables of those relations.

## 3. Method

This study fits into a broader research project entitled Engagement of Students in School: Differentiation and Promotion, second author coordinated and funded by FCT. Is part of the application of a multidimensional scale constructed to assess student engagement in school and related constructs. Six of items of the scale refer to the school self-eficacy.

### 3.1 Sample

The sample of this study consists of 685 students, of whom 389 are girls and 296 are boys. They attend the 2nd and 3rd cycles and secondary education in several regions of Portugal, and 138 are in the 6th grade, 170 in 7th, 9th in the 197 and 180 on the 10th. Participants are aged between 11 and 19 years, with an average of 13.8.

### 3.2 Instruments

#### *School Engagement*

The engagement of students in school was assessed by the questionnaire "Students Engagement in School: A four-Dimensional Scale" (SES-4DS) This is a four-dimensional valid and reliable ($\alpha = 0.83$) instrument (Veiga, 2013).

### *Self-efficacy*

Questionnaire for school self-efficacy - short version (QAEEr): The 2 most saturated items in each QAEE subscale in the factorial analysis of Portuguese validation study (Nogueira, 2008) were selected. The QAEEr consists of 6 items constructed to assess the perceptions of social self-efficacy (ability to relate and socialize with colleagues), emotional self-efficacy (ability to regulate unpleasant emotions), and academic self-efficacy (ability to succeed in school and have appropriate learning behaviors). Each is answered on a Likert-like scale of 6 points (1 = none to 6 = very much). The scores are summed to produce a measure of self-efficacy for each domain and a total score of school self-efficacy

The validity of the original version of QAEE was determined by 5 studies in Europe and USA with exploratory factor analyzes that support the existence of three factors (Nogueira, 2008; Suldo & Shaffer, 2007). Negative relationships between self-efficacy and psychopathology, and positive relationships between self-efficacy and life satisfaction supported the construct validity of the scale (Muris, 2001). Also the fact that academic performance is strongly associated with academic self-efficacy and shows no correlation with the social and emotional domains of self-efficacy, is further support for the validity (Nogueira, 2008). The internal consistency of the three scales ($\alpha > 0.80$) was good in all studies (Nogueira, 2008).

## 3.3 Procedure

The questionnaire was applied collectively in the classroom.

## 4. Results

## 4.1 Descritive Statistics

Tables 1 and 2 present the descriptive statistics of the subscales of engagement and retentions. The internal consistency of the total scale is 0.84 (Cronbach's $\alpha$), a fairly high value for this type of scales.

**Table 1:** Descritive statistics of engagement scales

| Scale | Mean | Standard-Deviation | α |
|---|---|---|---|
| Agenciative Engagement | 18,66 | 5,77 | |
| Afective Engagement | 24,78 | 4,69 | |
| Cognitive Engagement | 18,67 | 4,93 | |
| Behavioural Engagement | 26,84 | 3,35 | |
| Total Engagement | 88,94 | 12,31 | 0,84 |

**Table 2:** Number of retentions

| Number of retentions | 0 | 1 | 2 | 3 | Total |
|---|---|---|---|---|---|
| Frequency | 565 | 85 | 27 | 8 | 685 |

Descriptive statistics of the subscales and total scale of school self-efficacy are presented in Table 3. Values of internal consistency (Cronbach's α) are also included, which are very satisfactory, considering that the subscales are composed of only 2 items. In the same table are the interrelations between the scales. The correlation values are relatively low, indicating the specificity of the scales, contributing in a similar way to the overall scale.

**Table 3:** Descritive statistics and intercorrelations between the scales of self-efficacy

| | Mean | Standard-Deviation | 1 | 2 | 3 | 4 | α |
|---|---|---|---|---|---|---|---|
| 1. Academic self-efficacy | 9,46 | 2,37 | | 0,36** | 0,21** | 0,74** | 0,82 |
| 2. Social self-efficacy | 10,30 | 1,90 | | | 0,25** | 0,70** | 0,77 |
| 3. Emocional self-efficacy | 8,38 | 2,53 | | | | 0,72** | 0,69 |
| 4. School self-efficacy | 28,14 | 4,90 | | | | | 0,71 |

** p< 0,01

Table 4 shows the correlations between the scales of self-efficacy and engagement with school age and number of retentions. The values are generally positive and significant, and the correlations between behavioral engagement and self-efficacy in

the social and emotional components is almost zero. The relationship between age and retentions and engagement and self-efficacy indicates a decrease of these along the educational path.

**Table 4:** Correlations between the scales of engagement and academic self-efficacy with age and retentions

| | ACAD. SE | SOCIAL SE | EMOC. SE | TOTAL SE |
|---|---|---|---|---|
| **Total Engagement** | 0,44** | 0,48** | 0,27** | 0,54** |
| **Cognitive Engagement** | 0,36** | 0,22** | 0,20** | 0,37** |
| **Afective Engagement** | 0,26** | 0,61** | 0,26** | 0,50** |
| **Behavioural Engagement** | 0,27** | 0,09* | 0,08* | 0,21** |
| **Agenciative Engagement** | 0,27** | 0,29** | 0,15** | 0,32** |
| **Retentions** | -0,22** | -0,14** | -0,10* | -0,21** |
| | -0,28** | -0,14** | -0,09* | -0,23** |

** p< 0,01 and * p< 0,05

Table 5 shows the means of the scales of school self-efficacy as a function of grade level. The decrease in values over the years indicates a likely deterioration in expectations of personal efficacy with the accumulated experience of failures.

**Table 5:** Means of school self-efficacy scales by grade

| GRADE | N | ACADSE | SOCSE | EMOSE | SCHOOLSE |
|---|---|---|---|---|---|
| 6 | 138 | 9,95 | 10,52 | 8,81 | 29,28 |
| 7 | 170 | 9,85 | 10,42 | 8,61 | 28,89 |
| 9 | 197 | 9,22 | 10,31 | 8,18 | 27,71 |
| 10 | 180 | 8,98 | 10,01 | 8,06 | 27,04 |

Table 6 shows the descriptive statistics of the scales of self-efficacy by gender. The differences are significant in the emotional dimension and therefore the results are lower for girls also in full scale. The Student t test for independent samples indicates, respectively, t (683) = -5.43, p <0.01 and t (683) = -3.93, p <0.01.

**Table 6:** Descriptive statistics of self-efficacy scales by gender

| | GIRLS | N=389 | BOYS | N=296 | |
|---|---|---|---|---|---|
| | Mean | Standard-Deviation | Mean | Standard-Deviation | |
| Academic self-efficacy | 9,40 | 2,44 | 9,53 | 2,29 | |
| Social self-efficacy | 10,17 | 1,94 | 10,47 | 1,84 | |
| Emocional self-efficacy | 7,93 | 2,65 | 8,97 | 2,24 | ** |
| School self-efficacy | 27,51 | 5,02 | 28,98 | 4,61 | ** |

** $p < 0,01$

## Regression Analysis 4.2

In Table 7 are indicated significant results of the regression analysis on the engagement of students in school (total scale), taking as independent variables the subscales of self-efficacy (academic, social and emotional), gender and grade. Gender was excluded, being social self efficacy the main predictor of engagement.

**Table 7:** Regression analysis on the engagement of students in school

| | B | STANDARD ERROR | BETA | t | SIG. |
|---|---|---|---|---|---|
| Social self-efficacy | 2,22 | 0,22 | 0,34 | 10,12 | 0,000 |
| Academic self-efficacy | 1,41 | 0,18 | 0,27 | 8,01 | 0,000 |
| Grade | -1,1 | 0,25 | -0,13 | -4,15 | 0,000 |
| Emocional self-efficacy | 0,54 | 0,16 | 0,11 | 3,45 | 0,001 |

## 5. Discussion

The results indicate that the relationship between school self-efficacy and engagement are positive and significant. The differences between boys and girls are going in the traditional sense of a less emotional control of teenager girls. Assuming that self-efficacy is influencing engagement, the most salient aspect to explain school engagement is social self-efficacy. The engagement decreases throughout schooling, probably by decreasing school self-efficacy. In the beginning, all possibilities are open. As problems arise, evidence of what students are or are not capable of doing

accumulates. In many cases, probably increasingly often, what school do is to show students what they are not able to do. And that is how academic self-efficacy ends up suffering through confirming successive failures, easily enhanced by the numerous obstacles that are common core and the sequential nature of the materials of the programs.

The results of social self-efficacy and social and behavioural engagement were the most salient. This is consistent with the idea that school demonstrates students easier their academic difficulties than social ones. The "behave well" of behavioural engagement can be purely passive, without implying the participation behaviours that promote academic learning and constitute the agenciative aspects of engagement. Nevertheless, the variables may be related to social relationship that will keep resisting withdrawal and dropout.

*Promoting student engagement in school*. The key to promoting academic engagement is the promotion of self-efficacy. It is the sense of personal efficacy, of being able, which makes engagement materializes into action. It is this action that may have an impact on school performance. Without skills, behavior will never be possible, but this is not enough. One must believe it will be able to do that action. All the work of the teacher is to promote the skills of their students. To establish objectives for learning is essential to guide our actions. Self-efficacy comes as the variable that allows the student to risk more ambitious goals, leading to greater effort and commitment that you can ensure achievement. However, when the targets are multiplied in several goals, the probability of failure increases significantly. It is here that self-efficacy can be manifested to withstand failures and maintaining the motivation to continue. It is through the realization you have expertise that you can attribute the failure to lack of effort rather than lack of ability. And it is because he believes it is worth it and you will reach your goal, the student will continue to work. This perseverance is one of the functions of self-efficacy beliefs that teachers can influence. Through the planning and organization of instruction, teachers can have an impact on self-efficacy and, consequently, in the student engagement and learning.

As self-efficacy results from the balance between perceived competence and the perception of demands (Hollenbeck & Hall, 2004), there are 4 modes to influence it. On the one hand, the student can acquire and exercice the competence or correct the way he views the competence already owned. People easily ignore or belittle what they actually can do more when they are depressed. By the side of the demands, they can be really reduced, for example, by delegating tasks, or modifying their perception.

In this case, the teacher can help the student perceive a seemingly impossible task as a succession of reachable small steps. What the teacher can do and say specifically to promote academic self-efficacy of their students should focus on the following aspects (Margolis & MacCabe, 2006):

What can the teacher do?
- Plan moderately challenging tasks.
- Take advantage of the choices and interests of students.
- Teach specific learning strategies.
- Use peers as models
- Encourage the effort and the proper use of strategies.

What can the teacher say?
- Encourage students to try to solve the problems.
- Accentuate the recent successes.
- Give specific feedback frequently.
- Accentuate functional causal attributions (attributing the results to the effort or lack thereof).

These practices must follow all instruction and enhance the development of skills and confidence of students. Creating relationships with students is, as said, decisive for student engagement. Relationships are particularly important with students in poverty (Payne, 2003), but they matter for everybody in school. The way to promote good relationships involves: communicating positive expectations; correcting students in a constructive way; developing positive classroom pride; demonstrating care; and preventing and reducing one's own frustration and stress (Boynton & Boynton, 2005). A specific incidence in the classroom and school pride should be promoted with extracurricular activities and events, mobilizing students and teachers, and open to parents and the community.

## Note

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